CLAIMS:

1. A prot in from *Helicobacter pylori* (*H. pylori*) containing one of the peptide sequences selected from SEQ ID NO: 1, 2, 3, 6, 10, 11, 12, 14, 15, 16, 17, 18 and 19 according to Tables 1a-1c, or parts or homologues thereof having a minimum length of five amino acids.

2. A protein according to Claim 1, characterized in that the peptide sequences are N-terminal sequences.

3. A protein according to Claim 1 or 2, characterized in that the protein containing a peptide sequence having the SEQ ID NO: 1 according to Table 1a has a molecular weight of approx. 250 kD, the protein containing a peptide sequence having the SEQ ID NO: 2 according to Table 1a has a molecular weight of approx. 110 kD, the protein containing a peptide sequence having the SEQ ID NO: 3 according to Table 1a has a molecular weight of approx. 100 kD, the protein containing a peptide sequence having the SEQ ID NO: 6 according to Table 1a has a molecular weight of approx. 60 kD, the protein containing a peptide sequence having the SEQ ID NO: 10 according to Table 1b has a molecular weight of approx. 42 kD, the protein containing a peptide sequence having the SEQ ID NO: 11 according to Table 1b has a molecular weight of approx. 42 kD, the protein containing a peptide sequence having the SEQ ID NO: 12 according to Table 1b has a molecular weight of from approx. 32 to approx. 36 kD, the protein containing a peptide sequence having the SEQ ID NO: 14 according to Table 1c has a molecular weight of approx. 30 kD, the protein containing a peptide sequence having the SEQ ID NO: 15 according to Table 1c has a molecular weight of approx. 28 kD, the protein containing a peptide sequence having the SEQ ID NO: 16 according to Table 1c has a molecular weight of approx. 28 kD, the protein containing a p ptide sequence

having th SEQ ID NO: 17 according to Table 1c has a molecular w ight of approx. 25 kD, the protein containing a peptid sequence having the SEQ ID NO: 18 according to Table 1c has a molecular weight of approx. 25 kD, and the protein containing a peptide sequence having the SEQ ID NO: 19 according to Table 1c has a molecular weight of approx. 17 kD.

4. A protein according to any one of Claims 1 to 3, characterized in that the protein is a membrane protein or a protein which is firmly associated with the membrane.

5. A protein according to any one of Claims 1 to 4, characterized in that the protein is an integral membrane protein, in particular a Sarkosyl®-insoluble integral membrane protein.

6. A protein according to any one of Claims 1 to 5, which can be obtained in accordance with the following procedural steps:
(a) isolating the proteins by means of differential solubilization;
(b) separating the proteins, which have been isolated in accordance with step (a), by means of gel electrophoretic methods; and
(c) isolating the proteins, which have been separated in accordance with step (b).

7. A protein according to Claim 6, characterized in that the protein can be obtained by means of differential solubilization using Sarkosyl®.

8. A protein according to Claim 6 or 7, characterized in that it can be obtained by means of separation by one or more SDS polyacrylamide gel el ctrophores s.

9. A prot in according to Claim 8, characterized in that it can b obtained by means of several SDS polyacrylamid g l lectrophoreses having different polyacrylamide contents.

10. A protein according to Claim 8 or 9, characterized in that the polyacrylamide content is approximately 8%, 10% or 16%.

11. A peptide having the amino acid sequence according to SEQ ID NO: 1, 2, 3, 6, 10, 11, 12, 14, 15, 16, 17, 18 or 19 according to Tables 1a-1c, or parts or homologues thereof having a minimum length of five amino acids.

12. An antibody against one or more proteins according to any one of Claims 1 to 10 and/or against one or more peptides according to Claim 11.

13. A polynucleotide encoding one or more proteins according to any one of Claims 1 to 10 or one or more peptides according to Claim 11.

14. A process for preparing the proteins according to any one of Claims 1 to 5, characterized in that the following procedural steps are carried out:
(a) isolating the proteins, by means of differential solubilization;
(b) separating the proteins, which have been isolated in accordance with step (a), by means of gel electrophoretic methods; and
(c) isolating the proteins, which have been separated in accordance with step (b).

15. A process according to Claim 14, characterized in that the proteins are isolated in accordance with step (a) using Sarkosyl .

16. A process for preparing th peptid s according to Claim 11, charact rized in that a chemical peptide synth sis is carried out.

17. A process for preparing the proteins according to any one of Claims 1 to 10, or the peptides according to Claim 11, characterized in that a polynucleotide according to Claim 13 is expressed.

18. The use of one or more proteins according to any one of Claims 1 to 10, one or more peptides according to Claim 11, one or more antibodies according to Claim 12 or one or more polynucleotides according to Claim 13 for preparing a pharmaceutical composition or a diagnostic agent.

19. A pharmaceutical composition comprising one or more proteins according to any one of Claims 1 to 10 and/or one or more peptides according to Claim 11 or one or more antibodies according to Claim 12 or one or more polynucleotides according to Claim 13 or their expression products.

20. A pharmaceutical composition according to Claim 19, characterized in that the pharmaceutical composition is used as a vaccine.

21. A diagnostic agent comprising one or more proteins according to any one of Claims 1 to 10 and/or one or more peptides according to Claim 11, one or more antibodies according to Claim 12 or one or more polynucleotides according to Claim 13 or their expression products.

22. A protein from *H. pylori* containing one of the peptide s quences deduced from SEQ ID NO: 21, 22, 23, 24, 25, 26 and 27, or parts or homologues thereof having a minimum length of five amino acids.

23. A peptide having the amino acid sequence deduced from SEQ ID NO: 21, 22, 23, 24, 25, 26 or 27, or parts or homologues thereof having a minimum length of five amino acids.

24. A peptide selected from the C-terminal region of the peptide sequence of SEQ ID NO: 20 or homologue thereof.

25. A peptide according to Claim 24, wherein said peptide is selected from RDPKFNLAHIEKEFEVWNWDYRA and EKHQKMMKDMHGKDMHHTKKKK, or parts or homologues thereof.

26. An antibody against one or more proteins according to Claim 22 and/or against one or more peptides according to any one of Claims 23 to 25.

27. A polynucleotide encoding one or more proteins according to Claim 22 or one or more peptides according to any one of Claims 23 to 25.

28. A host cell transformed with the polynucleotide of Claim 13 or 27.

29. An expression product expressed from the host cell according to Claim 28.

30. A pharmac utical composition comprising one or mor prot ins according to Claim 22 and/or one or more peptides according to any one of Claims 23 to 25, or one or more antibodies according to Claim 26, or one or more polynucleotides according to Claim 27 or one or more of their expression products.

31. A pharmaceutical composition according to Claim 30, characterized in that the pharmaceutical composition is used as a vaccine.

32. A pharmaceutical composition according to Claim 30 or 31, characterized in that when the pharmaceutical composition comprises a nucleotide sequence, said pharmaceutical composition is used as a DNA vaccine.

33. A diagnostic agent comprising one or more proteins according to Claim 22 and/or one or more peptides according to any one of Claims 23 to 25, or one or more antibodies according to Claim 26, or one or more polynucleotides according to Claim 27 or one or more of their expression products.

34. The use of one or more proteins according to Claim 22, one or more peptides according to any one of Claims 23 to 25, one or more antibodies according to Claim 26, one or more polynucleotides according to Claim 27 or one or more of their expression products as a pharmaceutical composition or as a diagnostic agent.